1.	Record Nr.	UNINA9910793933703321
	Autore	Quinn Rian
	Titolo	Advanced C++ programming cookbook : become an expert C++ programmer by mastering concepts like templates, concurrency, and type deduction / / Rian Quinn
	Pubbl/distr/stampa	Birmingham, England ; ; Mumbai : , : Packt, , [2020] ©2020
	ISBN	1838551840 9781838551841 1838559914 9781838559915
	Edizione	[First edition.]
	Descrizione fisica	1 online resource (443 pages)
	Disciplina	005.133
	Soggetti	C (Computer program language) C++ (Computer program language)
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Chapter 1: Getting Started with Library Development -- Chapter 2: Using Exceptions for Error Handling -- Chapter 3: Implementing Move Semantics -- Chapter 4: Using Templates for Generic Programming -- Chapter 5: Concurrency and Synchronization -- Chapter 6: Optimizing Your Code for Performance -- Chapter 7: Debugging and Testing -- Chapter 8: Creating and Implementing Your Own Container -- Chapter 9: Exploring Type Erasure -- Chapter 10: An In-Depth Look at Dynamic Allocation -- Chapter 11: Common Patterns in C++ -- Chapter 12: A Closer Look at Type Deduction -- Chapter 13: Bonus - Using C++20 Features.
	Sommario/riassunto	"A recipe-based guide to refining your C++ programming skills with the help of coding best practices, advanced programming concepts, and the latest features of C++17 and C++20 Key Features Learn how to develop and design your own libraries Find solutions to your app development problems and implement them in a highly reusable manner, following library development best practices Explore advanced C++ features such as containers, coroutines, and modules Book

Description If you think you've mastered C++ and know everything it takes to write robust applications, you'll be in for a surprise. With this book, you'll gain comprehensive insights into C++, covering exclusive tips and interesting techniques to enhance your app development process. You'll kick off with the basic principles of library design and development, which will help you understand how to write reusable and maintainable code. You'll then discover the importance of exception safety, and how you can avoid unexpected errors or bugs in your code. The book will take you through the modern elements of C++, such as move semantics, type deductions, and coroutines. As you advance, you'll delve into template programming - the standard tool for most library developers looking to achieve high code reusability. You'll explore the STL and learn how to avoid common pitfalls while implementing templates. Later, you'll learn about the problems of multithreaded programming such as data races, deadlocks, and thread starvation. You'll also learn high-performance programming by using benchmarking tools and libraries. Finally, you'll discover advanced techniques for debugging and testing to ensure code reliability. By the end of this book, you'll have become an expert at C++ programming and will have gained the skills to solve complex development problems with ease. What you will learn Solve common C++ development problems by implementing solutions in a more generic and reusable way Achieve different levels of exception safety guarantees by introducing precise declarations Write library-quality code that meets professional standards Practice writing reliable, performant code that exposes consistent behavior in programs Understand why you need to implement design patterns and how it's done Work with complex examples to understand various aspects of good library design Who this book is for This book is for intermediate and expert-level C++ developers who are looking to explore the lesser known functionalities of the language to improve the efficiency of their code and the way they develop applications. Basic knowledge of object-oriented programming concepts and the Standard Template Library (STL) is assumed." -- Publisher's description.